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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,694	09/04/2003	Tomasz J. Goldman	10559/240002/P889C/Intel	8572

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EXAMINER	
NGUYEN, BRIAN D	

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/656,694	GOLDMAN ET AL.	
	Examiner	Art Unit	
	Brian D Nguyen	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *the application filed 9/4/03*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/4/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 3, 7, 11, and 15 are objected to because of the following informalities: Appropriate correction is required.

Claim 3, line 1, "recovering the spanning tree" seems to refer back to "recovering the spanning tree" in line 13 of claim 1. If this is true, it is suggested to change "recovering the spanning tree" to ---the recovering the spanning tree---. In lines 8 and 11, "a second switch" seems to refer back to "a second switch" in line 3. If this is true, it is suggested to change "a second switch" to ---the second switch---.

Claims 7, 11, and 15 have the same problem as claim 3.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gai et al (6,032,194).

Regarding claim 1, Gai discloses a network switch (figure 2) comprising: two or more ports; and a machine-readable medium embodying information indicative of instructions that when performed by the network switch result in operations comprising: storing a value representing a determined distance (cost path) to a network core for the network switch (see

lowest cost path to the root in col. 3, lines 1-8 and the cost can be the number of hops (distance) in col. 2, lines 53-56), wherein the network core (backbone) represents a high bandwidth portion of a network and comprises multiple core switches; configuring one of the two or more ports as a root port, in a forwarding state, that represents a least cost path to a root switch and another of the two or more ports in a blocking state (see col. 2, lines 53-62), the root switch having been selected for a spanning tree for the network to center the spanning tree at the network core (see col. 3, lines 30-31), the spanning tree being formed in part by the configuring; and recovering the spanning tree, in response to a communication failure, based on periodically propagated network core distance information stored in the network switch (see abstract and col. 3, lines 48-54 where BPDU frame that includes lowest root path cost and switch ID are propagated every two seconds). Gai does not specifically disclose the core switches having a distance-to-network core of zero. However, because the root switch is located at the network core (backbone), the distance to the network core (backbone) must be zero.

Regarding claim 2, Gai discloses the periodically propagated network core distance information comprises information indicating a distance to the root switch (root path cost) from the network switch (see col. 3, lines 1-8. Note that the cost is associated with distance as described in col. 2, lines 53-56).

Regarding claim 3, Gai discloses the recovering the spanning tree comprises: determining whether the blocked port is operationally connected to a second switch and whether the second switch is closer to the root switch than the network switch by checking the periodically propagated network core distance information stored in the network switch; changing the blocked port to a forwarding state if the blocked port is operationally connected to a second

switch that is closer to the root switch than the network switch, and initiating regeneration of the spanning tree if the blocked port is not operationally connected to a second switch that is closer to the root switch than the network switch (see col. 2, lines 53-62 and col. 4, lines 1-15).

Regarding claim 4, Gai discloses the operations further comprise, periodically: receiving one or more frames (BPDU frames) that each identify an upstream broadcasting switch and a first distance to network core value; storing information identifying one or more switch ports that are operational and one or more directly-connected upstream switches; and broadcasting one or more frames that each identify the network switch and a second distance to network core value (see col. 3, lines 1-8 and 48-67).

Regarding claim 5, Gai discloses a system comprising: a plurality of switches (see figure 1) including core switches that reside in a network core representing a high bandwidth portion of a network; and machine-readable media embodying information indicative of instructions that when performed by the plurality of switches result in operations comprising: generating a spanning tree (see col. 2, line 28) for the network by selecting one of the core switches to be a root switch of the spanning tree (see col. 2, lines 30-31); and recovering the spanning tree in response to a communication failure (see col. 4, lines 1-9) based on periodically propagated network core distance information stored in at least a first switch of the plurality of switches (see col. 3, lines 48-67). Gai does not specifically disclose the core switches having a distance-to-network core of zero. However, because the root switch is located at the network core (backbone), the distance to the network core (backbone) must be zero.

Regarding claim 6, Gai discloses the periodically propagated network core distance information comprises information indicating a distance to the root switch (see col. 3, lines 1-8).

Regarding claim 7, Gai discloses the recovering the spanning tree comprises: determining whether a blocked port at the first switch is operationally connected to a second switch of the plurality of switches and whether the second switch is closer to the root switch than the first switch by checking the periodically propagated network core distance information stored in the first switch, changing the blocked port to a forwarding state if the blocked port is operationally connected to a second switch that is closer to the root switch than the first switch, and initiating regeneration of the spanning tree if the blocked port is not operationally connected to a second switch that is closer to the root switch than the first switch (see col. 2, lines 53-62 and col. 4, lines 1-15).

Regarding claim 8, Gai discloses the operations further comprise: periodically propagating the network core distance information downstream by broadcasting frames periodically, each game identifying a broadcasting switch and a distance to network core value; and updating downstream switches with the network core distance information by storing at each of the downstream switches information identifying one or more switch ports that are operational and one or more directly-connected upstream switches (see col. 3, lines 1-8 and 48-67).

Regarding claims 9-12, claims 9-12 are method claims that have substantially all the limitations of the respective apparatus claims 1-4. Therefore, they are subject to the same rejection.

Regarding claims 13-16, claims 13-16 are machine-readable medium claims that have substantially all the limitations of the respective apparatus claims 1-4. Therefore, they are subject to the same rejection.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Marimuthu (5,878,232), Fine et al (6,188,694), and Civanlar et al (6,483,832).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian D Nguyen whose telephone number is (571) 272-3084. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/18/04

BRIAN NGUYEN
PRIMARY EXAMINER